CAN PROLIFERATION NOW BE STOPPED?

By George H. Quester

INDIA detonated a nuclear explosive below the surface of the Rajasthan desert on May 18 of this year. If we were hoping that the world's nuclear club could be limited to the five nations that have possessed the bomb since 1964, that possibility is thus now gone.

One should not base too many hopes on the fact that the Indian explosive was portrayed as intended for nonmilitary uses. Indian politicians have been releasing trial balloons for years now about a "peaceful nuclear explosive," while often more jocularly and candidly referring to it in New Delhi and Bombay as the "peaceful bomb." By detonating its explosive as it did, the Indian government avoided violating the aboveground Limited Test Ban Treaty of 1963, which it had signed and ratified. By defining the explosive as peaceful, the government could also argue that it did not violate its agreement with Canada on the reactor at Trombay, an agreement which merely required use for "peaceful purposes." The "peaceful explosives" euphemism was moreover likely to hold back some hostile foreign reactions, although newspaper editorials the next day could note that such an explosive was practically indistinguishable from a bomb. By detonating underground, the Indians indeed demonstrated that they had more than some huge and crude device; since it was small enough to be gotten down a deep shaft, it was probably small enough to be carried aboard an airplane.

Can the further spread of nuclear weapons now still be contained after the Indian explosion, or must we reconcile ourselves to a seventh and a twelfth and a twentieth state with nuclear explosives? Is there even any good reason to devote much effort to trying to curb proliferation; is nuclear proliferation necessarily so bad?

Proliferation is indeed still bad for the world. The spread of nuclear weapons in some cases may make war more likely, because such weapons temptingly suggest preemptive strikes by the air forces of a region. And in most cases the spread of nuclear weapons will make war enormously more deadly and destructive, as entire cities become vulnerable to the strike of a single bomber.

If one concluded that the Indian detonation made the further spread of nuclear weapons inevitable, this author would see that detonation as a disaster for the world. An alternative possibility will be explored here, however, that proliferation may yet be containable, even after the Indian action.[1]

II

In looking at policy avenues that might conceivably limit the size of the nuclear club, some might now advocate taking a firm and punitive position toward India herself. Hypothetically, India could be forced to sign the Nuclear Nonproliferation Treaty (NPT), to open all of her peaceful facilities to inspection, to dismantle or hand over any additional nuclear explosives she had produced, to promise that she would never again produce or acquire such explosives.

To this end, nuclear assistance to India might be curtailed or terminated. Other forms of economic assistance could be terminated. Political condemnation might be voted in various bodies of international organizations. Even more severe sanctions might be considered. If such punitive measures failed to bring India around, they would at least show the rest of the world that the NPT system can be challenged only at some peril.

But the bulk of such a response has never been likely to happen, and the Indian government had reason to be assured of this before its detonation. At the very least, a punitive response would have required reliable cooperation between the United States and the Soviet Union, so that neither need fear that the other would pull a double cross by forgiving India at the last moment. There was indeed extensive collaboration and collusion between the two superpowers in 1967 and 1968 in the drafting of the NPT, with the prospect of continuing cooperation thereafter in discouraging proliferation for most of the nations of the world. Yet where the specific nation is as big and important as India, each capital had all along had to fear that the other would never go through with meaningful retaliation. Perhaps this was because Moscow has been shortsightedly tempted by supposed new opportunities for influence in New Delhi, or because President

[1] The arguments presented here have been developed in seminars and conversations with colleagues in the Cornell University Peace Studies Program, most especially with Chaim Braun, Milton Leitenberg, Franklin Long, Onkar Marwah and Lawrence Scheinman.

Nixon and Secretary Kissinger each expressed skepticism about the NPT, which had been drafted in the preceding Johnson Administration. Perhaps it was instead because the "India desk" outranks the "arms-control desk" in each of the foreign policy bureaucracies. Most probably it was because India is a special country, of special importance and with special problems. The Soviet Ambassador was reported to have been visibly angry upon being informed of the detonation, but his government's statement pointedly backed up the Indian contention that nothing obnoxious had occurred, since the Indian detonation was "peaceful." The U.S. reaction was almost as mild; the State Department is reported to have drafted a much more critical statement, which Secretary Kissinger shortened and toned down.

One could have ruled out some forms of retaliation simply on humane grounds. If famine should threaten, the outside world is not likely to hold back grain simply because India detonated a nuclear device. Grain may be hard to buy now, because surplus is no longer the rule, but this would have affected India even if she had not challenged the NPT. With regard to the broader forms of economic aid to India, the consortium of aid givers was scheduled to convene shortly after the May detonation; it did not retaliate, but instead indeed increased its pledges of assistance for the coming year.

Over the longer term, a resentment may set in which would result in cutbacks in aid for India, but to what extent? Some nuclear assistance may now be curtailed, but India had reached a stage of self-sufficiency in many aspects of nuclear development, before the detonation, such that she will not suffer badly here. The Canadian decision to terminate assistance produced some irked Indian comments that this assistance had hardly been significant in recent years. At the margin India may undergo some economic penalties for her detonation, but only at the margin; Indian advocates of the bomb may well contend that this will be more than made up for by the enhancement of India's scientific image abroad.

Canada's reaction was indeed openly and righteously angry. Perhaps it reflects genuine astonishment at the Indian detonation, but perhaps instead a certain embarrassment at having failed to draft a more airtight contract with the Indians eight or ten years ago. Ottawa in any event can hardly claim that it did not receive fair warning that an Indian "peaceful explosive"

might one day go off, very possibly using material from the original Canadian reactor.

Yet Canada is a country which does not have real worldwide responsibilities. As such it can speak its mind and vent its anger when it wants to, lecturing another state on the proprieties much as the United States tended to do in the 1920s and 1930s. This anger, however, can hardly now be an appropriate model for all of the rest of the world, for the states that matter the most, in particular for the nuclear-weapons states.

It is probably too late in any event to get India out of "the club." Nonweapons status, like virginity, is not easily restored; this was one of the difficulties of the 1946 Baruch Plan, by which the United States was in effect offering to go back to non-possession of nuclear weapons. Whatever India may do in the future, it might always be remembered that she once had completed the steps of manufacturing and detonating a bomb-scale device, that she might secretly have hidden some bombs away, that she might quickly reassemble the team of technicians who had produced the device before. The time to stop nuclear proliferation is before it happens. The logic of the Nuclear Nonproliferation Treaty indeed underscored this notion in 1968 by tolerating as a nuclear-weapons state any government which had already gotten the bomb as of that date. India has now moved to update this.

It may thus be inherently impossible for the world to pressure India into any meaningful exit from the nuclear club, or to punish India so much that entry now will seem a bad bargain. Yet a very different kind of "punishment for India" may be much more feasible, namely that the world no longer accord very much attention, glory or prestige to entry into the "nuclear club." This would indeed require that Americans, Russians and others seem to be bored rather than angered by Indian detonations. Such a reaction has to be real and natural to be convincing, but to some extent such indifference and boredom is indeed the current reaction: American news services, for example, assigned a low priority to the announcement of the Indian detonation. Exploding an atomic bomb ten years too late may be a little like putting a man into space ten years too late; it may not bring political returns that are worth the trouble.

India may indeed have built her bomb for peaceful uses, although all the outside world doubts this. She may have acted in part to intimidate Pakistan or to prepare the psychological

climate for future negotiations with China. The bomb may also have been built to win prestige and some general political clout, to bolster Mrs. Gandhi's domestic political position, to win India greater respect abroad. If, in this last category especially, the bomb pays off less handsomely than expected, the Indian example may not inspire as much imitation as we fear.

III

But is just ignoring the Indian detonation the best we can do? Not quite. If we concede that India has made it safely into the ranks of nuclear-explosives nations, New Delhi may still not really wish to allow many more nations into these ranks. It is not difficult to find Indian government officials who are quite concerned that the sixth not lead to the sixteenth. Americans and Russians in the past tried to discourage an Indian bomb by warning that proliferation would be unstoppable thereafter; if Indians ignored such warnings, it was not because they were indifferent to this risk, but because they thought it might yet be controlled.

In the first place, it makes a considerable difference to the effect on others how far India decides to go. Does she need or want to proclaim openly that she views her peaceful explosive also as a bomb? How many more detonations are desirable? Is a move to an expensive thermonuclear (H-bomb) detonation appropriate? How openly and how quickly does India wish to put money into much more expensive new delivery systems for nuclear weapons? Each of such policy choices will have to be evaluated in New Delhi with some concern for the risk of further proliferation.

Expense is clearly an inhibiting factor. The outside world has unfairly evaluated the bill thus far for the Indian detonation, for the plutonium bomb is in fact basically a low-cost spin-off from the rest of the Indian nuclear program. Estimates of the cost of the explosives portion of the nuclear program range as low as $25 million, and the rest of the program is indeed proving sensible for India's civilian energy needs, especially since the price of oil has risen so much. To go to H-bombs and missiles, however, would be tens of times more expensive, far more explicitly a diversion from civilian needs, more easily condemned abroad, and for that matter harder to justify and sell in New Delhi.

But apart from expense, one has the considerations cited above

of arms control. India has proved she can detonate a nuclear explosive. Perhaps her own foreign policy goals, as well as her domestic goals, will now be served best by not doing much more, lest additional actions make it easier for others to decide to "do more" by entering the nuclear explosives field.

The current Indian posture of pretending not to have a "bomb" is excessively cute, conveying little assurance to Pakistanis or anyone else. If they are to be taken at all seriously, Indian disclaimers of military intent might best be reflected in a no-first-use pledge. After some time, it might serve the interests of all concerned for India simply and calmly to make her declaratory posture identical to that of China since 1964, candidly stating that she has what can be used as a bomb, but declaring "that at no time and in no circumstances will [she] be the first to use nuclear weapons."

IV

Proliferation has long been threatening in the Middle East as well as in South Asia. We have no assurance that Israel has not used the 24-megawatt reactor supplied by France in 1957 to produce one or two atomic bombs each year. Rumors of such bomb production emerge periodically, at times apparently instigated by Israeli government sources as psychological warfare to intimidate the Arab regimes. The Indian detonation of course hardly dampened apprehension about this neighboring area, and a wave of concern has now been aroused by the American offer during President Nixon's recent visit of one 600-megawatt reactor each to Egypt and Israel, and by the contracted sale of five French and two American reactors to Iran.

Is there any way that this flow of events can somehow be turned in the direction of containing nuclear proliferation, rather than accelerating it? Egypt has signed, but not ratified, the Nuclear Nonproliferation Treaty. Israel has refused to sign. If Israel signed and ratified, there is reason to hope that Egypt might ratify. But Israel's submission to inspection by the International Atomic Energy Agency (IAEA), as required by the NPT, would up to now have cancelled out some of its psychological-political advantage in the proliferation rumors noted above. Israel has never talked of driving Arabs into the sea; but the prospect of an Israeli A-bomb might have seemed useful insurance against a drive in the other direction.

What role does the U.S. offer of reactors play, and what role can it play? The United States for the moment is not insisting that either state adhere to the NPT in order to receive the proffered aid. Because the American offer neutralizes the supposed asymmetry between "near-nuclear" Israel and "non-nuclear" Egypt, however, it may help prod the Israelis to accept the treaty. Secretary Kissinger's intervention in the Middle East has importantly involved discouraging Israel from relying too much on supposed military superiorities. The greater "nuclear parity" suggested by the offer of two 600-megawatt reactors may thus be altogether consistent with this policy; it will no longer allow Israel to have a "nuclear rumor monopoly" in the region.

There are of course two ways of achieving nuclear parity at this superficial psychological-warfare level. Once the Egyptian reactor is in operation, rumors of Egyptian bombs could emerge periodically to match rumors of Israeli bombs. Or we could see Israel now move to sign and ratify the NPT, and Egypt then ratify the treaty, with the result that there would then be a "parity" with very few bomb rumors on each side.

Much will thus depend on Israeli preferences in the matter. Becoming a party to the NPT would mean that each country's entire nuclear industry would be thrown open to inspection by the IAEA based in Vienna, no matter where the reactor or nuclear facility originally had come from; it would mean that the IAEA's task would be easier, and that its reports would be more reliable and reassuring. It would mean that even Israel's French-supplied reactor at Dimona would be open to inspection.

Hence, the American offer of nuclear assistance to states in the Middle East will make far more sense if Israeli and Egyptian adherence to the treaty can be won in the process. Perhaps the U.S. government is already orchestrating quiet pressures that way. Perhaps it will begin to do so, but only after some congressional pressure is applied.

If Egypt and Israel could be persuaded to ratify the Nonproliferation Treaty this year, this would be a major counter to the destabilizing momentum of the Indian detonation. Nations everywhere are now watching to see whether this will be a world of many or few nuclear powers. The Indian move unfortunately suggests "many"; a Middle East renouncing nuclear weapons might conversely suggest "few." Yet one has as yet seen too little

hard evidence that the Administration is prepared to exert this kind of pressure in the Middle East or anywhere else. It is paradoxically the case that it required a more "anti-American" government in Australia to get the NPT ratified in January of 1973, whereas "pro-American" governments had been delaying action. While one can of course make a mistake in applying too much "hard sell" for something like the Nonproliferation Treaty, the Nixon Administration at times seemed to be applying no salesmanship at all.

Jordan, Lebanon and Tunisia are three Arab states that have already gone ahead to ratify the NPT; Algeria and Saudi Arabia have never signed, while the other Arab states match the Egyptian position of signature without ratification. Saudi Arabia, because of its great wealth and weight in the area, would be an especially useful addition to the list of parties to the treaty. Libya, with large cash reserves in hand with which to try to purchase an atomic bomb, might remain a problem.

Yet the essence of halting proliferation may be that one pitches in, in a patchwork fashion, to solve one problem at a time, tackling each while it still can be solved. Avoiding proliferation in the Middle East hinges on specific political attitudes and tensions, and these must be dealt with case by case. It also has a wider relation to the problem of reactor safeguards, to be discussed later.

V

Argentina and Brazil are in some ways the states most troublesomely related to the Indian precedent. Brazilian spokesmen have been talking about "peaceful nuclear explosives" for years, and Argentina has historically felt compelled to match Brazilian achievements. Neither has signed the NPT, and the link to India has unfortunately been reinforced by showcase agreements for Indian-Brazilian nuclear cooperation and just recently (since the Indian detonation) for Indian-Argentinian cooperation. And both nations seemed to be embraced by Indian references in the original NPT debate to "countries like India."

It may be difficult to quiet the last Indian official who over the past seven years has had the function of bracketing India with Brazil and other nations as worthy exploiters of nuclear explosives. Nonetheless, given the normal time-lag to reach all the corners of a bureaucratic establishment, the Indian govern-

ment might be mobilized behind the creation of a new firebreak, now that the old one has become inoperative. China stopped being "pro-proliferation" after she got into the club in 1964. It is in India's self-interest to make a similar change.

There are indeed important differences between India and other countries, which could be made convincing here. To begin with, India has a nuclear-weapons-equipped neighbor in China, with whom she fought a war in 1962, and with whom she still has a border dispute. Because of this, in the 1960s one could find spokesmen of a great number of nations around the world expressing a special tolerance and sympathy for Indian nuclear aspirations. India, moreover, has a tradition happily free of military interventions in politics. There have been no military coups, nor for that matter any pattern of terrorists leaving explosives around cities and kidnapping prominent citizens, etc.

By contrast, neither Brazil nor Argentina has anything to fear from any nuclear power. And nuclear weapons can present special dangers in any nation that must continuously fear that one part of its armed forces will turn against another part, or against the government in power. A Brazilian or an Argentinian head of state might wish to ponder twice whether his (or her) personal position and the country's national politics would be improved with nuclear weapons in the national arsenal. Countries with military governments or frequently without stable government are not "countries like India."

As noted, moreover, Brazil and Argentina tend to emulate each other. If either gets "peaceful nuclear explosives," the other is likely to seek the same. Wars have been less frequent than arms races between these two states, but a situation where both had (or appeared to have) nuclear weapons would surely be tense. For Brazil, inclined to be as prestige-minded as India, any gains in status could be at the expense of security headaches.

The situation is certainly not yet hopeless here. Making atomic weapons is becoming easier, but one still does not slap them together overnight. For some time into the future, these states will need substantial outside assistance on nuclear power production, and they will indeed want the electricity the reactors can produce. Brazil chose to buy its first power reactor from the United States, with enriched uranium as the fuel, even though this necessarily invokes IAEA safeguards and gives Washington leverage over Brazil's nuclear intentions in the future. The rea-

son was simple: the American reactor was more efficient as an electricity-producer. Argentina by contrast has gone for natural-uranium reactors which seem less cost-effective but promise earlier independence; but even here we have seen the Canadian government now move to impose stricter conditions on its supply of such a reactor, in the aftermath of the Indian experience.

The presumed appeal of "peaceful nuclear explosives" is another issue flagged by the cases of Brazil and Argentina. Here it would be immensely helpful if the advocacy of such peaceful nuclear devices could be damped down within the United States. Most scientists who have studied the possibility are quite skeptical about the projected benefits; so far, no significant project has emerged in which nuclear explosives could be used effectively and without substantial fallout. If officials of the U.S. Atomic Energy Commission, or its Russian equivalent, continue to emphasize the great possible returns from such explosions, however, it will be all the harder to discourage such projects in Brazil.

In this connection, unfortunately, the just-signed Soviet-American agreement to curb underground testing may prove very counterproductive. The agreement leaves a grace period of 21 months and tolerates a threshold of 150 kilotons (far above the magnitude of the Indian detonation), which already unfortunately suggests that the superpowers are not very serious about de-emphasizing nuclear weapons. Its Article III, furthermore, worsens the situation by for the moment flatly exempting peaceful nuclear explosives from the ban. It has been suggested that New Delhi may have hurried along its detonation because of rumors that the two superpowers were about to accept a meaningful ban on underground testing at their June Moscow summit, a ban which would increase the moral pressure against an Indian detonation. One wonders whether India had any reason for haste, if this was all the moral bind the Soviet-American agreement was going to impose.

VI

One might look next at the countries most closely neighboring on India. Pakistan's displeasure with the Indian move was of course quickly made clear. Ceylon and Burma and Nepal are just as displeased, but will not say so as openly. President Bhutto might now try to hurry to acquire his own bomb for Pakistan, but

this will be more difficult when foreign assistance is not available. Canada and the United States will be quite cautious about requiring safeguards here, and so probably will Britain and France and the other possible European suppliers.

In light of political alignments, one might speculate that Pakistan would quickly seek assistance, or the outright supply of bombs, from China. Would it not have made sense for Peking to have promised bombs to Pakistan if India ever went nuclear (or to Egypt, if Israel ever detonated a bomb)? This might indeed seem quite consistent with Chinese statements of the early 1960s extolling the spread of nuclear weapons. Yet past Pakistani (and Egyptian) inquiries about such a contingency arrangement seem always to have drawn a totally noncommittal Chinese response. Peking seems well aware now of the realities of the world; it understands that continual nuclear proliferation is full of hazards.

One could of course argue that the examples of North Vietnam versus the United States, or Iceland versus Britain, show that a non-nuclear Pakistan does not have to fear India so very much. The example of Hiroshima or Nagasaki unfortunately suggests the reverse, but much has happened since 1945; a nuclear club is different when it has more than one member. As with the other countries discussed, much of what Pakistan tries to do will depend on Indian behavior after the detonation; one must assume that New Delhi will prefer that Pakistan at least be non-nuclear.

The proliferation attitudes of Iran have attracted more attention, now that a total of seven large-capacity reactors have been ordered from France and the United States. A French news report after the Indian detonation quoted the Shah as wanting nuclear weapons for Iran, but this was quickly denied by the Iranian government; subsequently, Iran has renewed its own previous proposal for a nuclear-free zone in the Middle Eastern region.

Even before the Indian detonation, there was widespread speculation about the Shah's intention to become some sort of balancing counterweight to India, in particular after the defeat of Pakistan and the independence of Bangladesh. While such speculation quieted somewhat after the visit by Mrs. Gandhi to Tehran early in May, it would not be surprising if the Iranian regime were disturbed to see this visit followed so soon by India's entry into the nuclear club.

Does one thus have to see weapons intentions in the Iranian move to reactors? A skeptical view would indeed question the economic necessity for such reactors, since Iran itself is hardly experiencing an energy shortage. Surely there is some distance to go yet in the industrialization of Iran, and in the harnessing of all energy sources, before nuclear power becomes cost-effective. If this economic analysis is correct, then Iran's intentions may indeed be suspect.

Yet other factors may counter suspicion here. Iran's Shah has been urging the outside world to reduce its consumption of oil, to shift to nuclear energy where possible. He has pushed up the price of oil to discourage its overall consumption, to seek to shepherd a diminishing resource for Iran, so that his country will not plunge into poverty again early in the twenty-first century. Nuclear reactors in Iran might thus be meant mainly to set a good example for the world, to show that oil more and more will be reserved for use as a petrochemical rather than as a source of heat energy, even in oil-rich countries. Getting reactors into operation, moreover, takes time, as does setting up an infrastructure of trained manpower to operate a nuclear industry. If reactors would not look cost-effective for Iran today, it may yet be the right time to get going on a nuclear industry that could pay off handsomely for the country 15 or 20 years from now.

Moreover, the fact that Iran both signed and ratified the NPT remains of great importance: it is more difficult to abrogate such a treaty than to refuse to sign it in the first place. The NPT means that all of Iran's nuclear industry, whatever the source of fuel or equipment, will be under IAEA inspection. This point, overlooked in some comment on Iran's situation, should be a major reassurance to the outside world.

As for the Shah's proposal of a nuclear-free zone in the Middle East, it is difficult to draw any major conclusions. At the least it shows how some potential "Nth" countries are willing to assert anti-proliferation sentiments.

VII

In Europe, the Indian detonation seems less immediately upsetting than elsewhere. West Germany completed its parliamentary debate on ratification this year, and the deposit of its ratification is likely to occur once Helmut Schmidt has his political house in order. What once seemed major disagreements

between Bonn and the International Atomic Energy Agency about the form and thoroughness of IAEA inspection seem to have been successfully compromised. Significant accommodations have been made in winning the more highly industrialized nations to an acceptance of the NPT, by assurances that the Vienna Agency's safeguards will not be so excessively rigorous as to impose great economic burdens.

The compromise could of course be upset now if the Indian experience convinced everyone that these safeguards were too lax, but this would be a very misleading inference. IAEA safeguards were not deceived in India; what failed was a basically unpoliced "gentleman's agreement" between New Delhi and Ottawa.

If big reactors are given to Egypt and Israel, they may similarly generate a problem of invidious comparison as to the intensity of surveillance under such safeguards. What is sufficient as inspection in West Germany or Italy or Japan will not be so convincingly reliable in the Middle East. And the total of what might be needed in the Middle East would conversely be unbearably obtrusive and costly in the highly industrialized countries. But the IAEA may not be able to establish any "double standard" within its own procedures. The best solution will probably be as proposed in the U.S. offer, to impose additional American government safeguards in Egypt and Israel as a supplement, while letting the IAEA in all cases use the standard inspection procedures it has been developing.

An Italian ratification of the treaty would logically become appropriate just as soon as the West German ratification is completed. Unfortunately, however, the Italian parliamentary situation is such as to make difficult the ratification of any treaty whatsoever, thus portending further harmful delay. As everywhere else, there are persons in Italy who will want such a delay, and who welcome the Indian detonation as one more excuse. But these persons for the moment represent no large constituency among Italian voters.

Then there is the wild-card case of South Africa, which has been a suspect near-nuclear nation for some years now—it has large reserves of uranium, it has enemies, it has declined to sign the NPT and it has periodically announced work on new uranium enrichment processes. Pretoria has not typically sought or needed attention; the less the outside world thought about South

Africa, the better off the regime seemed to be. Under normal circumstances, therefore, the regime would not have chosen to detonate a bomb, even if it wished to acquire one. (No one needs to detonate any more to be reasonably sure a bomb will work.) If stopping detonations is at least an important aspect of stopping proliferation, South Africa might not have been considered a major source of trouble.

Now, however, if the Indian explosion came as a surprise to South Africa, a bigger and more important shock has surely been the fall of the Caetano government in Portugal and the ensuing promise of an early end to Portuguese rule in Angola and Mozambique. It is thus regrettably not to be ruled out that the combination of these surprises will make Pretoria more bomb-minded, and also detonation-minded. The Indian bomb puts a lot of noise into the system, with the unfortunate effect of confusing and thereby reducing the hostile foreign reaction that would have followed a South African detonation. If Pretoria felt badly pressed by events in neighboring territories in the next few years, it might thus see more gains and fewer costs in detonating a bomb to demonstrate its "ultimate deterrent." Much depends, of course, on how long the "noise" of Indian detonation persists; if no one else follows India's example, and if India detonates very few more of her "peaceful explosives," the possibility of a South African detonation may soon enough be restored to its full unseemliness.

VIII

Continuing concern is in order about Japan's attitudes on nuclear proliferation. Japan has signed the Nuclear Nonproliferation Treaty. While Premier Tanaka is believed to be in favor of getting the NPT ratified as soon as possible, important segments of his Liberal Democratic Party are opposed, and Tanaka's personal strength within the party is not as strong as it was. Continued delay in ratification may kill the treaty in the end; if it should die, voices might then soon enough be raised in favor of Japan exercising its nuclear weapons option. The Indian bomb clearly has not helped the NPT here, because it gives opponents of the treaty a ready-made excuse for further delay.

Much will now depend on how much attention the Indian bomb draws in the Far East, and especially on how much the Chinese government makes of it. If Peking were to seem enor-

mously impressed by the Indian detonation, Tokyo too might see a great deal of political clout in all this. But China's response thus far has been almost optimal—to give the Indian detonation virtually no mention at all. This is in great contrast to the Indian reactions to the first Chinese detonation; the contrast is of course largely due to the difference between a free press and a government press, but it also in part reflects the lesser importance the world accords to nuclear weapons in 1974 as compared with 1964.

China's stance toward India has been basically moderate for almost a decade now. Such moderation in the future can thus hardly be seen as the fruit of India's acquisition of nuclear weapons. If China were now to turn around and become very bellicose toward India, this might seem to demonstrate great significance for the Indian nuclear move. As things stand, however, a posture of continued Chinese equanimity and indifference to the Indian nuclear program can convey the lesson that nuclear club memberships aren't that big a thing anymore.

In short, to the extent that India may have hoped for new leverage in her relations with China, the evidence so far—as well as one's judgment of Chinese style in general—does not support such an expectation. Japan thus need not be impressed.

Moreover, the very comparison with China may have implications for the way India pursues her nuclear program. China made a strong impression in Asia and the world by achieving her H-bomb in only three years (from 1964 to 1967) after her first A-bomb. It took France eight years, from 1960 to 1968, to the considerable embarrassment of Paris. Can New Delhi be similarly embarrassed, as the world on second look rates Indian scientific prowess down, rather than up, on the basis of nuclear-weapons activity? This may supply one more good reason for the Indian government to stress, and repeat, and stick by its protestations that its nuclear-explosives work is entirely peaceful.

Finally, the example of China suggests one other line of action that the United States should now follow, for its impact not only in Asia (including Japan) but elsewhere. Just as China deemphasizes nuclear weapons even while continuing to keep them in her arsenal, the United States can play a role in cutting the apparent significance and value of such weapons. It already is doing so for some regions, for example by pulling nuclear weapons out of Taiwan and Okinawa. It can do more. This is not to argue for an explicit no-first-use policy, or for explicit endorse-

ment of nuclear-free zones; the negotiation and litigation of such formal postures unfortunately are often so prolonged as to enhance, rather than diminish, the apparent significance of nuclear weapons. It is probably better, for example, to leave such weapons in place along the NATO central front, which may always be a special zone of American interest, a sort of "fifty-first state." Yet there are zones from which American tactical nuclear weapons might quietly be removed, and others into which they should never be deployed. One reacts with horror, for example, to a hypothetical news story of the future that American nuclear weapons would be deployed to Diego Garcia; what could be less conducive to the de-emphasis of "nuclear India," or for avoiding "nuclear Iran"? Similarly, one would like to see the day when it could be announced that there were no American nuclear weapons deployed in combat-prone Greece and Turkey.

IX

This article so far has been examining separately the nations which might be considered most likely to follow in India's wake. National psychology, regional factors and perhaps most particularly an overall sense of whether nuclear weapons add to prestige and felt power—all these elements come into play in the individual cases. Such essentially political reasons lay behind India's decision, and will probably always be primary in any national decision to go nuclear. At the same time, the picture that emerges at the present time is by no means devoid of hope, or of guides to action and attitude, particularly on the part of the United States.

It remains to look at the more concrete actions that might be taken to affect the practical capacity of nations to convert nuclear materials into weapons. With nuclear reactors likely to spread rapidly throughout the world, can the situation in respect to safeguards and deterrents be improved?

In discussions of the 600-megawatt reactors offered in the Middle East, as with American nuclear assistance to the Latin American states, or to India, or to any other country, one confronts an Administration rationalization that French or Russian or Canadian or other salesmen would quickly have moved in if the United States had not made the sale. More and more firms are learning how to produce reactors, and more processes are emerging for the enrichment of uranium for use as reactor fuel;

Article IV of the Nuclear Nonproliferation Treaty in fact calls for as much sharing as possible of nuclear technology. When it makes a sale, the United States can at least be counted upon to insist upon better safeguards arrangements than France had with Israel, or Canada with India, or the Soviet Union with China. By making the sales, it is thus argued, the United States will additionally earn whatever foreign exchange and political leverage are involved; just as in the sales of conventional arms, some other supplier would move in to reap these rewards if we did not.

One does not know exactly how much to make of such arguments. It is true that the American monopoly on civilian nuclear technology has long been broken, and that its near-monopoly on uranium enrichment will not last much longer. France can promise enriched uranium to Iran and Japan, and will probably be able to deliver. But "probably" is the right word here, for the technological world does not always lend itself to such reliable prediction. At the moment it appears that there might be an interim shortage of enriched uranium, and a similar shortage of capacity for reprocessing plutonium, rather than any surplus. When the United States makes a firm promise to provide such services to Brazil, Iran, Israel or Egypt, this may have to mean that some other nations will be denied such services.

The American offer of reactors and fuel to the Middle East indeed advances the time when there will be reactors functioning there, and plutonium to be watched. The supply of nuclear technology has thus not become so redundant that the seller can no longer impose conditions or request favors. It may be very sensible to offer reactors to Egypt, to hasten the day when Egyptians can benefit from an ample supply of electricity; a little more affluence might be a very good tonic for the conflicts of the region. But adequate safeguards over the services provided cannot be shrugged off.

Because fuel may be scarce, and for other reasons, it should not be as difficult to align the suppliers as is often contended. Russia may have made mistakes in being too free with nuclear assistance to China; she did not repeat such mistakes in Egypt. Canada relied overly much on "gentleman's agreement" understandings with India, but intends to be tougher with Argentina. France made moves she was later to regret in giving an unsafeguarded reactor to Israel. "We got our fingers burned" is a cliché heard regularly from diplomats of each of these states,

suggesting that tighter controls and understandings may be achievable in the future, precisely because all of these governments now will want them in genuine fear of proliferation.

More might now be done, also, on getting international operations under way in the fields of uranium enrichment and plutonium reprocessing, so that these critically sensitive operations do not settle into a typically single-nation pattern. France has a new President who shows some signs of being more arms-control minded than his predecessor. The aftermath of the Indian detonation is thus clearly a good time for a meeting of minds among all the potential nuclear suppliers, including France, Canada, the U.K., and the U.S.S.R., to see whether fingers cannot be burned a little less often in the future.

X

The provisions of the Nonproliferation Treaty stipulate that a Review Conference of parties to the treaty will be held in 1975. Before the Indian detonation, many Americans were convinced that this conference should best be played in as low a key as possible, since discussions of the burdens imposed by the treaty were likely to do more harm than good. For a time it was feared that the conference would become an enormous gripe session on the costs and inequities of IAEA inspection, but the working agreements reached between Euratom and the IAEA have now taken most of the steam out of this issue. Since nonparties to the treaty such as Brazil and India will not be formal participants in the conference, some of the broader anti-treaty issues they are prone to raise will not be much discussed.

A few commentators have now suggested that the conference should indeed straightforwardly be used to demand tighter IAEA safeguards procedures, to provide greater assurance that materials are not being clandestinely diverted by the governments involved. This "adversary" approach almost certainly would produce great resistance and bitter acrimony, however, and might indeed be a major mistake. As noted, the IAEA safeguards system did not fail in India, for the original Canadian-Indian agreement had not brought the Vienna Agency into the picture. If "outsider" IAEA safeguards are meant to work simply by their technical perfection, moreover, they are bound to fail, for some small measure of uncertainty has to remain if the safeguards are to be commercially acceptable in places like Sweden and Japan

and Germany and Australia. Yet such safeguards can work well in such countries, precisely because they operate politically as well as technically.

The International Atomic Energy Agency has now accumulated some considerable experience in countries which have ratified the NPT, or which have accepted safeguards under earlier bilateral agreements between the provider and user of the nuclear materials involved. The safeguards have been designed and redesigned to avoid the twin pitfalls of inadequate reliability and excessive cost. They can never be technologically airtight. Nonetheless they can and will be tight enough to pose an undismissable risk that clandestine diversions of nuclear materials by the state in question would be detected. At the political level, the visits of IAEA inspectors moreover will be a continual reminder that the state in question has formally renounced its nuclear weapons option, that its international honor is on the line. Most governments will thus not be able to rule out the possibility that their own scientists might inform the IAEA inspector of an illicit project.

Are there other more useful purposes the Review Conference can now be put to, after the Indian detonation? Quite apart from whether the number of national entries into the nuclear club now grows past six, there are indeed serious unsolved problems in the area of "private" nuclear proliferation, problems which moreover need not be adversary issues between the United States on the one hand and "near-nuclear" nations on the other.

Specifically, it has recently been shown that any and all safeguards—IAEA, bilateral, or national—need improvement, in light of the growing risk that groups entirely outside the government will be able to steal plutonium for weapons manufacture in the future.[2] It should be pointed out that this is a particularly great problem within the United States itself, which is not required to come under IAEA safeguards because of any NPT provisions, but which has the largest nuclear energy complex and therefore the largest volume of plutonium in circulation.

No one really ought to sleep easily in light of the risk that the Mafia, or the IRA, or the Palestinian organizations will be able to steal atomic bombs in the future. Yet this risk is

[2] See in particular John McPhee, *The Curve of Binding Energy,* New York: Farrar, Straus and Giroux, 1974, and Mason Willrich and Theodore B. Taylor, *Nuclear Theft: Risks and Safeguards,* Cambridge, Mass.: Ballinger Publishing Company, 1974.

bound to grow, even as the peaceful nuclear industries of nations grow. It is a risk, moreover, which would grow worse if additional nations decided to produce nuclear explosives; a finished bomb is easier to steal than raw plutonium. Proliferation to nations will thus almost certainly bring with it greater risk of proliferation within nations. For the United States to take this risk seriously is desirable in itself. To take it seriously, and discuss it seriously, is moreover to present an honest and powerful argument against additional national nuclear forces, and in support of the international safeguard systems that the NPT imposes.

The bulk of proper controls against private theft or diversion will have to be national. The Review Conference should thus be used to stress how much it will be in each nation's interest to have effective national controls, i.e., to be certain that plutonium is not being stolen for purposes the national regime would entirely disapprove of. If this risk is taken seriously enough, some of the concern about IAEA intrusion can dissipate. Rather than a suspicious outsider monitoring the actions of a government, the Agency can in part become a useful outsider helping the government monitor its own deadly resources.

One can brood historically about the extent to which the French nuclear program was launched by technocrats without any clear mandate from the French government. One might brood more about the episode in which Egyptian submarines set to sea to try to torpedo an Israeli liner (the *QE II*) on the orders only of the ruler of Libya. A very important aspect of dealing with proliferation risks will thus be getting each nation's house in order, instituting the kind of effective "command and control" that has been so much analyzed in the context of the American military.

XI

This has been a patchwork quilt of hopes that proliferation is not yet inevitable, even now that India has crossed the line with a detonation. The jerry-built nature of such an array may indeed induce substantial pessimism in the reader, who might have hoped that the spread of nuclear weapons could be stopped on the basis of man's reasonableness and common sense alone, or by an American technological monopoly alone, or on the legal basis of the Nonproliferation Treaty alone.

Proliferation *can* be stopped, or at least it can be slowed to a manageable crawl. It has been ten years since the last entry into the club; if its membership stayed at six until 1984, this would be no small accomplishment. Historically, some countries' appetites for nuclear weapons have grown over time; this may now unfortunately be true in Japan. Yet quite the opposite happened in Sweden, and may be happening in Germany, and, indeed, in much of the world. Proliferation postponed may yet be proliferation averted. Indifference can help to contain proliferation, because it makes some domestic electorates less bomb-minded, because it cuts the international prestige and political clout one earns by coming into the nuclear club. On the other hand, indifference would be a disaster if it meant that no one would pay much attention to erecting and maintaining the patchwork of measures still needed for containing the spread of nuclear weapons.

What is proposed here is a mixture of thin reeds, letting India into the club while denying her the full fanfare of the initiation, and persuading India to behave like other club members in closing the door behind her. The Middle East looks like an additional problem for the control of nuclear weapons, but with NPT ratification it might be turned around to generate some momentum again for the containment of proliferation. The suppliers of nuclear equipment are increasing in number, but after the Indian detonation they may also increase in caution. The Review Conference for parties to the NPT may be steered toward cooperation in preventing nuclear theft, and the very contemplation of such theft may increase caution everywhere about national proliferation. These may all seem thin reeds indeed; yet the combination of such reeds may still work to contain proliferation. To reject this combination would be excessively pessimistic. To do so might simply show a desire for simple solutions where only complicated solutions are workable.